



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,516	10/25/2002	Rodolfo Paillaman	24-NS-123144	2138

23465 7590 10/02/2003  
JOHN S. BEULICK  
C/O ARMSTRONG TEASDALE, LLP  
ONE METROPOLITAN SQUARE  
SUITE 2600  
ST LOUIS, MO 63102-2740

EXAMINER

PALABRICA, RICARDO J

ART UNIT	PAPER NUMBER
----------	--------------

3641

DATE MAILED: 10/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/065,516

Applicant(s)

PAILLAMAN ET AL.

Examiner

Rick Palabrica

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,7,8,13,14,17 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 6, 9-12, 15, 16, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Applicant's amendment in Paper No. 10, which directly amends claims 10 and 20, is acknowledged. This amendment is in response to the 7/11/03 Office Action.
2. Applicant also traversed the rejection of claims based on the combination of De Briere et al. and Johnson in said Office Action. Applicant's arguments have been fully considered but they are not persuasive. As discussed in detail below, there are sufficient teachings in the applied art, which, along with applicant's own admissions, render the claimed invention obvious. In fact, De Briere et al. solve the same problem (i.e., detection of cracking) for the same structure (i.e., jet pump beam), as the claimed invention.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 5, 6, 9-12, 15, 16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Briere et al. (U.S. 4,394,345) in view of Johnson (U.S. 6,332,011 B1). De Briere et al. disclose the applicant's claims except for the specifics regarding phased array ultrasonic probes and their deployment for examination of jet pump beams.

De Briere et al. disclose an ultrasonic transducer apparatus and method for examining nuclear reactor jet pump beams for cracking (see Abstract). Note that the purpose of De Briere et al.'s invention is the same as applicant's invention (see, for example, paragraphs 0004 and 0005 of the specification). In fact, the figures in De Briere et al. and in the specification are **nearly identical** (e.g. Fig. 1 in De Briere et al. vs. Fig. 2 in the specification, Fig. 2A in De Briere et al. vs. Fig. 3 in the specification, etc.). Fig. 2A in De Briere et al. clearly illustrates a beam arm comprising a transition portion and a radiused portion located adjacent the transition portion, as recited in claim 11.

De Briere et al. also disclose examining the jet pump beam for cracks from below (see column 6, lines 3+). The underlined statement clearly shows that De Briere et al. are cognizant that potential jet pump beam cracking can occur not only on the top and side portions of the beam but below the beam, as well. One having ordinary skill of the art would have recognized that it would be advantageous to locate a crack detector nearest the potential or suspected location of a structural crack, e.g., for more precise characterization of the extent of cracking. Applicant himself admits that one having ordinary skill in the art would know how to position an ultrasonic phased array probe adjacent the bottom surface of the jet pump beam and conduct ultrasonic scanning (see pages 9 and 10 of the Amendment).

De Briere et al. further state that transducers of any suitable kind can be used for transmitting and receiving ultrasonic signals (see column 6, lines 19+).

Art Unit: 3641

Johnson teaches the use of a phased array ultrasonic probe to inspect for signs of cracking in the shroud of a boiling water reactor. He also teaches that more extensive and reliable testing for cracking can be done using this probe (see column 1, lines 58+).

One having ordinary skill in the art would have recognized that both references are in the same field of endeavor, i.e., ultrasonic testing for potential cracks in nuclear components. Note that both De Briere et al. and Johnson apply the same method of ultrasonic testing to detect reactor component cracks, and said artisan would have recognized that the teaching in Johnson would be applicable to De Briere et al. Additionally, applicant himself admits that ultrasonic phase probes, which exhibit advantages over standard ultrasonic probes, are commercially available (see paragraph 0025 of the specification)

As to the limitations in the claims regarding: a) the use of two ultrasonic phased array probes, i.e., a first probe for examining a first jet pump beam and a second probe for examining a second jet pump beam; or b) re-positioning a probe from one arm of the beam to its second arm, these are cases of duplication of parts having the same function. See MPEP 2144.04. VI. B that states: "[M]ere duplication of parts has no patentable significance unless a new and unexpected result is produced."

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, as disclosed by De Briere et al., by the teaching of Johnson and applicant's own admissions, to gain the advantages thereof (e.g. higher accuracy and reliability), to position at least one ultrasonic phased array probe adjacent the bottom surface of said beam, scanning a first jet pump beam

Art Unit: 3641

arm with the first probe, and then re-positioning the to scan a second jet pump beam arm such that the scanned volume comprises an area extending from the bolt opening to the end of a beam arm and extending from the top to the bottom surface of a beam, because such modification is no more than the substitution of one ultrasonic testing apparatus and method by another well known ultrasonic testing apparatus and method within the nuclear art.

### ***Conclusion***

**5. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 703-306-5756. The examiner can normally be reached on 7:00-4:30, Mon-Fri; 1st Friday off.

Art Unit: 3641

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 703-306-4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

RJP

September 30, 2003

  
MICHAEL CARONE  
SUPERVISOR